| ERIC Document Resume | See Instruction Sheet | DATE OF RESUME | DATE RECEIVED |
|---|---|---|---|

**A. PUBLICATION DATA**

| 1. ERIC NUMBER | 2. ORIGINATOR CONTROL NO(S). | 3. IDENTIFICATION NO. | DO NOT WRITE IN SPACE BELOW |
|---|---|---|---|
| ED001416 | | | |

4. AUTHOR(S):
Pierce, Truman M.

5. TITLE OF DOCUMENT ABSTRACTED:
Educational Change and the Role of Media

6. PUBLICATION TITLE:
N.A.

7. EDITOR(S):
N.A.

8. PLACE OF ORIGIN
School of Education
ORG. Auburn University
ST. Auburn, Alabama
CITY, STATE

9. PUBLISHER OR SOURCE
School of Education, Auburn University
Auburn, Alabama

| 10. VOL. | 11. PAGES | 12. MO./YR. | 13. TOTAL PP. |
|---|---|---|---|
| N.A. | N.A. | 11/63 | 16 |

TELE. EXT.
INST/LOC CODE

MICROFILM COPY AVAILABLE
YES ☒ NO ☐

COPYRIGHT GRANTED
YES ☐ NO ☒

COPYRIGHT RELEASE FILED
YES ☐ NO ☐

TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☐
FINAL ☒
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

**B. INDEXING DATA**

14. SUBJECT AREA

15. TYPE OF ENDEAVOR
discussion

16. INDEXING TERMS (6-12)

| | | | |
|---|---|---|---|
| school changes | educational changes | teaching variations | |
| cultural change | media role | teacher education | |
| pupil expenditure | educational improvement | professional preparation | |
| | | educational innovations | |

17. ABSTRACT (MAX. 250 WORDS)

Schools change slowly in comparison with the rapid changes taking place in the world of things, machines, and tangible products. Cultural forces which shape the future of society keep school goals in constant evolution. Sources of change in education are variations in teaching processes and methods, and the education of teachers. Forces which bring about educational change include cultural change, enactments of state legislatures, state and local regulations, court decisions, regional and national accrediting agencies and the dissatisfaction of citizens within a district or state with the quality and availability of education.

School systems differ greatly in capacity and willingness to adopt new practices in education. Measurable and objective factors which seem to account for these differences are wealth, size, occupation, and educational achievement level. The higher the expenditure per pupil the more likely is the school system to adapt to new needs. Available information on the character of current educational change and how suddenly change takes place indicates that media have played no important role. Imperatives of hastening educational improvement suggest the creation of a more dynamic role for media. Tasks of media are to make it possible for laymen to develop a better understanding of good schools and their value, and to accelerate the rate at which school systems adopt new practices.

ERIC No.

18. SOURCE OF ABSTRACT

**C. FUNDING DATA**

| 19. SUPPORTING ORGANIZATION | 20. DIVISION OR DEPT. | 21. CONTRACT NO. / PROJECT NO. |
|---|---|---|
| | 22. TOTAL COST OF PROJECT | |
| | 23. DURATION OF PROJECT | U.S. Department of Health, Education, and Welfare Office of Education |

ERIC Form 1

INSTRUCTIONAL TECHNOLOGY - U.S.C.

# EDUCATIONAL CHANGE AND THE ROLE OF MEDIA*

Truman M. Pierce, Dean
School of Education
Auburn University
Auburn, Alabama

**REPRINTED BY PERMISSION**
**U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE**
**OFFICE OF EDUCATION**

THIS DOCUMENT HAS BEEN PRINTED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

*Prepared for the Symposium On Identifying Techniques and Principles for Gaining Acceptance of Research Results of Use of Newer Media in Education, November 24-27, 1963, Lincoln, Nebraska

The era of rapid, pervasive and all-encompassing change in which we live has been dramatized in many ways. We have heard, for example, of the huge multi-million-dollar corporation engaged in manufacturing products, 90 per cent of which had not been invented five years ago, the new automated industrial plant which requires only sixteen workers instead of the 800 workers required by its predecessor, and the pharmicist whose business consists largely of selling d gs which were unheard of even twenty years ago. We know about men in space, the miracles of surgery, and other ~~illustrations~~ examples of man's restless, driving quest of an endless succession of new frontiers.

These advances in civilization are possible because of man's insatiable thirst for knowledge and his constant pursuit of the unknown. Learning and teaching make such advances possible. Society has created and developed schools in order to provide at least the modicum of learning it thinks is essential for all people. Schools are hard-put to keep their programs in tune with changing needs and conditions. It has been said that a person now entering the world of work will have to be re-educated the equivalent of three times if he is to remain useful through a normal employment career. No one doubts the continuation and acceleration of current trends which are shaping our society and its educational needs. In a very real sense, the word "change" is symbolic of this age.

It is generally agreed that education is playing an increasingly important role in society and that its role will be even greater in the future. What we expect of schools continues to grow in importance. It is now widely recognized that the nature of our educational system and its effectiveness will determine our national future. We look to education as the source of answers to problems which range from improving the lot of the underprivileged and disadvantaged to the development of a world citizenship which will assure international peace. Therefore, educational changes is a matter of very great importance How well we solve the problems before us depends on the character of our schools.

If the schools are to serve this greater role, they must change in the face of new demands.

Education is not noted for the rapidity with which it changes. In fact, education seems to respond more slowly to a changing environment than do other aspects of our culture. It has been noted that the greatest and most rapid change takes place in the material world, the world of things, machines, and tangible products. The schools are a social institution and social institutions change slowly, comparatively speaking.

Educational change should be viewed in historical perspective if it is to be understood. Its characteristics should be examined and the forces which bring it about should be defined and understdod. Unfortunately, there has been too little serious research on education, the processes of education, and how change in education takes place. The late Paul R. Mort devoted much of his professional life to the problem of understanding how schools change and the search for ways to hasten the tempo of change in education. He and his students conducted more than 200 studies during the past twenty-five years in efforts to throw light on these problems. Although others have done research in this field, only Mort conceived of a design for such studies and only he postulated a theory of educational change. This paper draws heavily on the work of Dr. Mort and his students.

There are some characteristics of the public schools which make it difficult for them to change even when the need may be obvious. Public schools are a nonprofit, noncompetitive enterprise which deal with complex human beings, their minds and their emotions. People who make decisions about the schools and their programs often do so from the frame of reference of their own era as students. The rewards of invention and innovation in education are frequently not visible. A person may be unpopular with his peers and unrewarded by the public if he becomes an agent of change in the schools. The system of lay control

of schools tends to place a premium on maintaining the status quo. The basic organizational pattern of the public school system, consisting as it does of thousands of local school districts each with considerable autonomy, is not conducive to educational change. What the public expects of schools is generally such that there is little incentive to basic educational change. Educators themselves, working as they must in the conservative environment which surrounds schools, are not noted for being oriented to creative innovations.

This paper seeks to: 1) set forth information on various kinds of educational change, 2) identify and discuss some of the forces which cause educational change, 3) state generalizations concerning educational change, and 4) briefly analyze the role of media in educational change. The first three purposes seem essential if the fourth is to be achieved satisfactorily. A brief look at the kinds of change which take place in the schools is undertaken next.

## Kinds of Educational Change

The problem of understanding the nature of change in education is far from simple. Schools, while usually taken for granted, are extremely complex and change in them may be expressed in a great variety of ways ranging all the way from the design of furniture to the philosophy of function. The kinds of change which occur in education are categorized and briefly described in the following pages.

Change in the purposes which schools are expected to serve is certainly of fundamental importance. Even a casual student of the history of education will be struck by the fact that goals of schools are in a state of constant evolution determined largely by cultural forces which shape the future of society. Needless to say, knowledge of changes in purpose is essential to an understanding of what goes on in the public schools. Major recent changes in purpose are not so much in kind as in relative emphasis. The new importance of mathematics and

science and the growing emphasis on continuing education are examples.

Purposes to be served by schools are expressed through the curriculum and in the content of the curriculum. It must follow, therefore, that if educational goals are always in a state of transition, the curriculum will be in a similar state of transition. New knowledge is being made available constantly which needs to be incorporated into the curriculum of the school. Subject matter may become obsolete as new knowledge is developed. In such cases it should be replaced by the new. Hence, as time passes, existing areas of study should be brought up-to-date in subject matter and new fields of study should be added to the school curriculum. Furthermore, the organization of curriculum materials and the manner of presenting subject matter to be learned in the schools undergoes changes. For example, there is currently considerable emphasis on the development and use of programed materials.

Variations in teaching processes and in teaching methods are a source of much change in education. Such change occurs as new discoveries are made about how learning takes place and the nature of the learner. When teachers acquire this new knowledge, the educational processes which go on in the school are affected.

Preparation for teaching is another area in which change takes place. Probably no more important avenue to effective change in the schools is available than is the education of teachers. Effective teachers are constantly becoming better prepared in their fields of specialization. Their preparation must be continuous if they are to remain effective. Professional preparation has grown in a relatively short time from major emphasis on the mechanics of teaching to study of educational philosophy, the psychology of learning, the sociology of learning, and a more profound analysis of educational materials and their proper use.

Probably one of the most important sources of educational change is the use of scientific measurement in the evaluation of teaching and learning. An objective basis is thus made possible for evaluating the effectiveness of

schools. Strengths and weaknesses can be identified and defined. Thus, Changes designed to improve the schools can ~~then~~ be predicated on a sound basis. A more defensible way to determine the need for change could scarcely be postulated.

One of the more visible types of change in education is in physical facilities. Substantial modifications in school buildings, space arrangements, and in the equipment necessary for effective teaching are being made constantly. These changes are brought about in an effort to make physical facilities more effective in their influence on learning.

As schools have grown in importance and complexity, increases in services to students which are supplementary or auxiliary to the major educational function to be served have been added. School lunch programs and pupil transportation are illustrations of such services. Other illustrations include health programs, psychological services, and the provision of employment opportunities.

Some of the most profound influences on education have been brought about through changes in the structure of school systems. The school district, an invention to maintain a measure of local control over education, has taken a variety of forms ranging in size from the New York City School District with more than a million students to the small rural school district with only a one-room elementary school with less than a dozen pupils. Internal organization of the school has also been an avenue of change. Among the different types of internal organization of the attendance center is the twelve-grade school, the six-grade elementary school, the six-grade high school, the three-grade junior high school, and the three-grade senior high school. The emergence of educational administration as a separate entity has necessarily accompanied the growth of larger school districts and has had great influence on educational change.

Another category of change may be described as the increasing use of technology in teaching. Films, film strips, overhead projectors, teaching

machines, transparencies, radio, and television are examples of this technology.

The above classification of educational change is both obvious and simple. In summary, a look at our evolving educational system through the windows of goals to be served, curriculum offerings, teaching procedures and methods, professional preparation, evaluation of teaching and learning, physical facilities, special services, and organization and administration provide a rationale for the analysis of actual educational change. This rationale is both comprehensive and specific, thus making it possible to view with some perspective any type of change which occurs in education.

It should be noted that schools are never static; they are always in a state of transition. Hence, the characteristics of change which have been enumerated are visible in part and to some degree in any school system at any time. Variations occur in the specifics, scope, vitality and tempo of change. Some school systems appear to be largely dormant as if unaware of the need to change; others are dynamic, creative, and are constantly engaged in making constructive adaptations to new needs.

What are the forces which trigger educational change? None of the types of change listed above are self-generating. Nothing happens until some force is applied to the schools which actually does produce educational change. What are these forces and how do they function?

## Forces Which Cause Educational Change

Less is known about forces which bring about change in education than we like to admit. Perhaps even less is known about what sets these forces into motion. However, it is possible to identify and describe some of the dynamics which are present when educational change takes place.

The major force, although perhaps the least understood, in bringing about educational change is cultural change itself. Obviously, this force is so fundamental that it gives impetus to evolving goals, provides the substance for

curriculum revision, and in various ways accounts for other expressions of educational innovation and adaptation. Since schools are a part of their culture, it follows that they are influenced in some measure by the dynamics of the culture itself. Were it not for evolving cultural developments, probably the need for educational change would be limited largely to simply improving and extending the availability of that which is already in existence.

Enactments of state legislatures account for much educational change. Requirements of what to teach, efforts to provide equal opportunities for all pupils, regulations concerning safety and health, providing school lunches and transportation are examples of mandated change. The force of legislative action can be used to bring about rapid educational change although its use does not always assure adequate understandings of the changes produced.

The regulations of state and local boards of education and other administrative and supervisory agencies constitute another major force. Textbooks to be used, the length of the school year, requirements for teacher certification, cumulative record forms and report cards are typical examples of such regulations. Clearly, an educational change can be brought about throughout a state school system relatively quickly through regulations of this type. But it should be remembered that change brought on by force may be only in form rather than in spirit or understanding. Hence, the adoption of a new report card may be achieved easily by the use of authority, but a change in the educational philosophy which underlies the new report card could not be mandated.

Court decisions are a growing force for change in schools which is of major importance, but they are by no means a new force. There are many landmark court decisions which have profoundly affected the development of education in this country. Chief among these decisions are those which make the state responsible for education, empower the state legislature to pass laws to

establish, support, control and maintain schools, and to delegate power to local school districts. A recent decision of ~~extensive~~ far-reaching influence is the 1954 verdict of the Supreme Court prohibiting segregation of the races in public schools on the basis of race alone.

Regional and national accrediting agencies are forces which bring about educational change. These bodies define minimum standards which must be met in order to qualify for membership. The prestige value of being accredited is important enough to cause schools to bring about such change as is necessary to meet these minimum standards. Teacher load, qualifications of personnel, and class size are typical examples of concerns of these agencies.

Research and experimentation could and should be major forces for educational change. However, they have been utilized only in a very limited sense. Since research and experimentation provide about the only defensible means of determining and evaluating needed change, they loom large in importance. Their present limited role in education constitutes a major weakness of the schools.

Study committees which are appointed for special purposes are an agent of educational change. A committee might be assigned the task of studying the problem of school dropouts. The committee might, after a period of study, make recommendations on how to solve the problem which, if put into effect, would bring about change. Schools often make changes in their curricula on the basis of discussion and opinion rather than on the basis of ~~research~~ sound study and experimentation. While ascertaining the facts regarding a condition should precede remedial action, this step is not always undertaken as a prerequisite to change.

Cooperative action within a school system or involving a number of school systems is a further important force which has become more significant in recent years. Such action may be concerned with research, with experimentation, or with studies of various kinds. The strength of cooperative action stems from the common purpose of those involved and the development of solutions to problems

of common concern, solutions which will be put into effect and tested. There is considerable cooperative action among school systems at present. It concerns itself with a wide range of matters involving problem identification, definition, analysis and the projection of solutions. Selected school systems are formally organized for these purposes in various parts of the country.

Financial grants for specific purposes are used to promote educational change. The National Science Foundation grants for the further education of mathematics and science teachers has had considerable effect on the teaching of these subjects in the high schools. Grants of educational foundations in support of master of arts in teaching programs is another example of such impetus for change. Foundation grants which have been made to stimulate and promote the use of educational television is another good example.

Certain types of educational change are promoted for the purpose of making money. The manufacture and sale of textbooks is a notable example, as is the school furniture business. Some more recent examples are ~~the companies which are developing~~ programed learning materials and teaching machines.

Emergencies sometimes develop which spark rapid educational change. The pre-flight training program developed in high schools throughout the country during World War II comes under this classification. The impact of Russia placing the first man in orbit created another type of emergency, perhaps more psychological in nature than otherwise, which was reflected in important judgments concerning the adequacy of our public schools and the taking of steps which were presumed to improve the schools.

The dissatisfaction of citizens in a school district or state with the availability of education and its quality constitutes a major force for educational change. Such dissatisfaction may find constructive expression in many ways. The introduction of additional courses in modern foreign languages, developing new curricula in existing fields, requiring higher student achievement,

providing more equipment, better libraries, and more educational services are some of these ways.

A force which does much to account for the growing edge in education is the creative educator who redefines problems, perceives new problems, and creates new ways of dealing with them. The creative educator is responsive to cultural forces, is sensitive to community conditions, and aware of professional attitudes toward change. In the final analysis, it is the creative educator who developes insight into new needs and creates ways of meeting these needs.

A number of forces which cause change in education have been listed. They are cultural change, enactments of legislative bodies, regulations of administrative and supervisory agencies, court decisions, ~~standards of~~ accrediting associations, research and experimentation, study committees, cooperative action, financial subsidies, commercial enterprises, emergency conditions, dissatisfaction of citizens and creative educators.

There is great variation in the character and impact of these forces. Cultural change is the most pervasive in the list and is an underlying force of fundamental significance in all change. The creative educator, cooperative action, study committees and research and experimentation are the forces likely to produce inventions and innovations of most promise in improving schools. Court decisions, while often controversial, are of immense importance in producing change in education. Legislative enactments, regulations and standards tend to produce uniformity and, all too often, mediocrity. Their influence is not creative in nature, as a rule, because their prescriptions usually center on the diffusion of practices which are well established and of rather ~~mundane~~ ordinary substance. Dissatisfactiom of citizens with their schools, commercial enterprises, and emergency conditions are not easily typed as to their influence on school improvement. However, they are not likely to be the source of many new and far-reaching innovations.

## Generalizations Concerning ~~Guides to~~ Change in Education

Studies of the kinds of educational change which take place and the forces which produce such change make it clear that schools in transition are extremely complex and difficult to understand. Local school districts vary enormously in their capacity and willingness to take on innovations in the face of changing needs. Schools within a single district may exhibit similar differences. Even classrooms in a single attendance center sometimes range from models which are outmoded to the most up-to-date models to be found anywhere. Few, if any, schools are examples of the best practice in all educational endeavor. The typical good school is outstanding in some phases of educational practice, but it may be poor in other areas of practice. However, the school system which pioneers in the adoption of one innovation is likely to pioneer in other respects. The guides which follow may be of use in stimulating improvements in education. They are findings from the research which has sought to develop understandings of how change takes place in education.

Changes in American education are not capricious or without identifiable antecedents. On the contrary, change seems to follow a pattern which can be predicted. It springs from a recognized need and is an effort to meet this need. A need may be recognized independently in a number of places and steps may be taken in each location to meet the need.

A long period of time may elapse between the recognition of a need and the invention of a way to meet the need. As much as a half-century may pass before the invention of a way to meet a need which will prove to be generally acceptable. Innovations may spring up and go through a try-out period only to be discarded before one is found which proves to be satisfactory.

Once an acceptable educational practice is invented, its spread through the school systems of the country proceeds at the pace of a snail. Fifty years are

required before an educational adaptation or practice spreads through most of the school systems of the country. Actually, the adaptation is not likely to be recognized until it has spread through 3 per cent of the school systems. This typically requires fifteen years. The next twenty years is a period of rapid diffusion of the practice and is followed by a long period of time before there is diffusion through the remaining school systems.

~~These generalizations on the invention and spread of educational adaptations are based on the theory of change in education which was developed by Paul Mort.~~

Communities (school systems) differ greatly in their capacity and willingness to adopt new practices in education. Measurable and objective factors in the community which seem to account for these differences are wealth, size, occupations and level of educational achievement. One of the most surprising findings concerning educational change is the close relationship between the community in which the schools exist and the adaptability of the schools in the community.

Teachers in those school systems which appear more likely to accept and put into practice educational innovations have better preparation and more professional preparation and are more accepting of modern practice than are teachers in school systems which are less likely to change. However, such teachers are more likely to be found in those communities which rate high on factors associated with above average capacity for educational change. Hence, the community factors are first in significance.

The level of financial support is probably the most important single school factor in predicting educational change. The higher the expenditure per pupil the more likely the school system is to adapt to new needs. It must be recognized that the level of support is related to other community factors described above and is, therefore, not the primary factor to be considered. Level of financial support is probably the function of a combination of factors including wealth

of the community and level of public understanding of what good schools are like.

The organization and administration of a school system and the vitality of the program of education which it offers profoundly affects the tempo and character of educational change in the schools. The environment for experimentation, for recognition of new ideas, for the stimulation of professional development, and financial support for educational change are important administrative and supervisory considerations which stimulate educational improvement.

The nature of an educational innovation or practice does not seem to affect the rate of diffusion except as diffusion may be related to cost factors. The rate of diffusion of complex and simple adaptations, if they meet a perceived need, do not seem to differ.

Characteristics of the population of the school district which have to do with educational attainment, understanding of the nature of good schools, what is expected of schools and the community sense of responsibility for the education of children appear to be of extreme importance in determining the extent to which schools may be expected to change in the face of new and unmet needs. While these factors may be associated with wealth, occupation, and size of district, their relationships are not casual in character.

These generalizations on the invention and spread of educational adaptations are based on the theory of change in education which was developed by Paul Mort.

## Media as a Dynamic of Educational Change

The preceding analysis shows clearly that the tempo and extent of educational change are not in step with current demands and expectations of schools. Hence, the search for the more powerful education required by the era in which we live must be concerned with problems of communicating adequately educational need, inventing practices and innovations which are required to meet this need, and diffusing these adaptations more rapidly throughout the school systems of the country.

Thus, the development of change which is adequate to produce the quality of education demanded by the world of today depends on two basic factors: greater creativity in inventing new and improved educational practices and increasing the rate of speed with which schools adopt these practices. Although invention must precede diffusion, it would be difficult to rate one above the other in importance, as both are essential. More is known about diffusion than invention. The more difficult of the two is invention.

Good schools do not emerge as bright and shining new models. They develop slowly over a long period of time. Each school, whether it be good or bad, is a part of its yesterday and each casts its shadow into the future. Just as the model school of today draws its character and its practices from many sources, the good school of tomorrow already exists in the best educational practices to be found at present in the various good schools of the country. There is no one kind of good school. Any school that achieves its purposes with distinction is a good school.

Schools which are good today will not remain so tomorrow unless they are constantly changing. This does not mean that schools should change in every respect or without design. It does mean that new practices should be taken on if they are superior to those which they replace. Obviously, schools do not change merely for the sake of change.

The fundamental forces which are responsible for educational adaptation appear to reside largely in the community, and in the larger society rather than in the schools themselves. The level of community understanding of what good schools are like, the community's expectations of schools and its commitment to education are the factors which weigh most heavily in bringing about educational improvements. However, the instruments of actual change are generally within the profession itself, although they tend to act under the stimulus of community forces.

Available information on the character of current educational change and how this change takes place indicate that media have played no role of importance. This need not be interpreted to mean that no important role exists for media. It does mean that any such role remains to be developed. The function of media contributes essentially to strengthening and accelerating the diffusion process rather than supporting invention as such. The imperatives of hastening educational improvements clearly suggest the creation of a more dynamic role for media.

This role is not likely to rest on simple communication for the purpose of informing only. A more creative job will be necessary because many responsible educators learn about new educational practices and even appreciate their value without going to the trouble of putting them into effect in their own work. Therefore, the role of media must include their use to motivate and develop understandings which will lead to action.

This concept means that speeding the tempo of educational change to the extent that schools will keep step with the cultural revolution depends on more effective continuous education of both the professionals and the lay public. If, as shown by research findings, the extent to which the schools of a community are modern rests on community understandings and expectations, then media should be used as instruments to raise the level of these understandings in school districts throughout the country. Therefore, there are two important tasks of media. One is to make it possible for the laymen to develop better understandings of what good schools are and their value. The second is to accelerate the rate at which school systems take on new practices. How these ends are to be achieved is not known at present. Invention and innovation in the use of media for these purposes are needed. Research and experimentation are also demanded. In a real sense, whether or not media can serve as a dynamic of educational change remains to be seen.

November 22, 1963